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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/563,941

01/10/2006

Elena Costa

1454.1660

3628

21171 7590 05/05/2008  
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EXAMINER

SMITH, SHEILA B

ART UNIT

PAPER NUMBER

2617

MAIL DATE

DELIVERY MODE

05/05/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/563,941	<b>Applicant(s)</b> COSTA ET AL.	
	<b>Examiner</b> SHEILA B. SMITH	<b>Art Unit</b> 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 10 January 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 17-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 17-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |                                                                                                                       |                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                           | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 01-20818 (Soliman)

Regarding claim 17. Soliman discloses a method for synchronizing a radio communication system divided into radio cells transmitting data by multiple access methods, each radio cell having a base station for radio provisioning mobile stations assigned to the radio cell (which reads on page 9 lines 12-14), determining, from the mobile station signals received at the base station, a first synchronizing value for at least one of time synchronizing and frequency synchronizing to which the base station synchronizes itself ; (which reads on page 11 lines 23-34 and page 14 lines 17-28) and determining, from the base station signals received at the mobile station, a second synchronizing value for at least one of time synchronizing and frequency synchronizing to which the mobile station synchronizes itself (which reads on page 10 lines 11-17). However Soliman fails to specifically disclose receiving at the base station of a radio cell, mobile station signals of the radio cell and adjacent radio cells, and receiving at a mobile station of the radio cell, base station signals of the radio cell and adjacent radio cells.

The examiner contends, however, that receiving at the base station of a radio cell, mobile station signals of the radio cell and adjacent radio cells, and receiving at a mobile station of the

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radio cell, base station signals of the radio cell and adjacent radio cells is well known in the art and at the time of invention, it would have been obvious to a person of ordinary skill in the art to modify Soliman with the teachings of well known prior art because mobile station signals are received from neighboring cells automatically without additional monitoring, as well as the base station signals are received from neighboring cells automatically without additional monitoring.

Regarding claim 18. Soliman discloses adjacent base stations (which reads on slave base stations) employ radio transmission resources from a stack commonly assigned to the base stations for data transmission (which reads on page 9-14).

Regarding claim 19. Soliman discloses base stations employ timeslots of commonly assigned carrier frequencies as radio transmission resources (which reads on page 4-9).

Regarding claim 20, Soliman discloses at least two adjacent base stations simultaneously and jointly employ a timeslot of a carrier frequency for radio provisioning a respectively assigned mobile station, and further comprising selecting the timeslot from the commonly assigned radio transmission resources taking account of an interference situation in the timeslot (which reads on page 4 lines 9-14).

Regarding claim 21. Soliman discloses comprising synchronizing by at least one of the base station and mobile station by adjusting carrier frequencies and timeslot-transmitting instants (which reads on page 9-14).

Regarding claim 22. Soliman discloses a 22. The method according to one claim 21, further comprising reducing co-channel interference on at least one of the base station and mobile station by interference suppression methods (which reads on page 4 lines 9-14).

Regarding claim 23. Soliman discloses a further comprising assigning radio transmission resources on the base station side to minimize co-channel interference in adjacent radio cells (which reads on page 9-12).

Regarding claim 24. Soliman discloses a orthogonal frequency division multiplexing radio transmission method is employed (which reads on pages 9-14).

Regarding claim 25. Soliman discloses a according to claim 24 wherein one of a time-division duplex and frequency-division duplex radio transmission method is employed (which reads on pages 4 -14).

Regarding claim 26. Soliman discloses a comprising determining one of a time deviation through correlating and a frequency deviation by ascertaining a phase rotation of consecutive symbols following a transformation into the frequency range (which reads on pages 1-14) .

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Regarding claim 27. Soliman discloses a synchronizing of the base station and the mobile station of the radio communication system requires no additional signaling using a higher protocol layer between the base station and assigned mobile station (which reads on pages 4 -14).

Regarding claim 28 Soliman discloses a base station, in a radio cell of a radio communication system divided into radio cells transmitting data by multiple access methods, for radio provisioning mobile stations assigned to the radio cell, comprising: a receiver receiving mobile station signals of the radio cell and adjacent radio cells; and a processor determining from the mobile station signals, a synchronizing value for at least one of time synchronizing and frequency synchronizing to which said base station synchronizes itself (which reads on pages 4 - 14).

Regarding claim 29. Soliman discloses a mobile station, in a radio cell of a radio communication system divided into radio cells transmitting data by multiple access methods, each radio cell having a base station for radio provisioning mobile stations assigned to the radio cell, comprising: a receiver receiving base station signals of the radio cell and adjacent radio cells; and a processor determining from the base station signals, a synchronizing value for at least one of time synchronizing and frequency synchronizing to which said mobile station synchronizes itself (which reads on page 1-14).

Regarding claim 30 Soliman discloses a radio communication system divided into radio cells transmitting data by multiple access methods, each radio cell having a base station for radio

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provisioning mobile stations assigned to the radio cell, comprising: at least one base station, each assigned to a corresponding radio cell, receiving mobile station signals of the corresponding radio cell and adjacent radio cells and determining, from the mobile station signals, a synchronizing value for at least one of time synchronizing and frequency synchronizing of the at least one base station (which reads on pages 1-14).

Regarding claim 31. Soliman discloses a radio communication system divided into radio cells transmitting data by multiple access methods, each radio cell having a base station for radio provisioning mobile stations assigned to the radio cell, comprising: at least one mobile station, each in a corresponding radio cell, receiving base station signals of the corresponding radio cell and adjacent radio cells and determining, from the base station signals, a synchronizing value for at least one of time synchronizing and frequency synchronizing of the at least one mobile station (which reads on page 4 - 9).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SHEILA B. SMITH whose telephone number is (571)272-7847.

The examiner can normally be reached on Monday-Thursday 6:00 am - 3:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dwayne Bost can be reached on 571-272-7023. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

S.Smith /Sheila B. Smith/  
Examiner, Art Unit 2617  
March 31, 2008

/Naghmeh Mehrpour/  
Primary Examiner, Art Unit 2617  
March 31, 2008